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NEW YORK STATE COLL OF AGRICULTURE AND LIFE SCIENCES --ETC F/6 13/2
QUALITATIVE ASSESSMENT OF POTENTIAL RECREATIONAL BOATING IMPACT--ETC(U)
MAY 82 R A SMOLKA, T L BROWN, C P DAWSON

DACW49-81-C-0073

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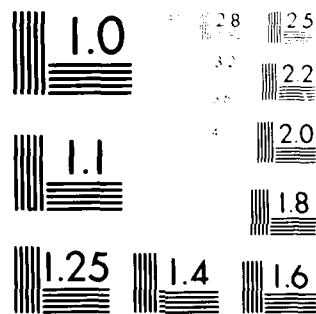
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Table B-1. Continued

Map Reference Number	Facility Name and Address	Ownership	Type of Accommodations Present	Number of Accommodations Present
19	Palmer Court Millens Bay Cape Vincent, NY 13618	commercial	launch ramp pier moorings boat storage boat rentals rowboats beach	1 6 N/A* 1
20	Cedar Point State Park RD 2 Clayton, NY 13624	state	launch ramp pier moorings boat rentals rowboats motorboats beach	1 46 12 6
21	Calumet Island Marina James and Jane Streets Clayton, NY 13624	commercial	launch ramp pier moorings boat storage	N/A* 61 N/A*
22	Rices Marina Dock 520 Merrick Street Clayton, NY 13624	commercial	launch ramp pier moorings transient boat storage boat rentals rowboats beach	1 15 1 N/A* 1
23	Clayton Municipal Dock N/A*	municipal	launch ramp pier moorings transient boat storage	1 50 20 N/A*
24	Clayton Village Dock N/A*	municipal	launch ramp pier moorings boat storage	1 30 N/A*

*N/A = not available

Table B-1. Continued

Map Reference Number	Facility Name and Address	Ownership	Type of Accommodations Present	Number of Accommodations Present
25	Denny's Cottages N/A*	commercial	launch ramp pier moorings beach	1 15
26	Thousand Island Marina Clayton Center Road Clayton, NY 13624	commercial	launch ramp pier moorings transient boat rentals rowboats	N/A* 30 1 1
27	Mercier, Inc. N/A*	commercial	launch ramp pier moorings transient boat storage	N/A* 150 1 N/A*
28	French Creek Marina Clayton, NY 13624	commercial	launch ramp pier moorings anchorage transient boat storage boat rentals rowboats	1 200 1 20 N/A* 1
29	Mercier's Shipyard Marina Clayton, NY 13624	commercial	launch ramp	N/A*
30	Clayton Marina Clayton, NY 13624	commercial	launch ramp pier moorings anchorage boat storage boat rentals rowboats	1 94 1 N/A* 1

*N/A = not available

Table B-1. Continued

Map Reference Number	Facility Name and Address	Ownership	Type of Accommodations Present	Number of Accommodations Present
31	Snells Boat Livery Clayton, NY 13624	commercial	launch ramp pier moorings boat rentals rowboats	N/A* 14 1
32	Fisherman's Pier N/A*	commercial	pier moorings	6
33	Stan McCormicks Marina 612 Riverside Dr. Clayton, NY 13624	commercial	launch ramp boat storage	N/A* N/A*
34	The Shipyard Clayton, NY 13624	commercial	dockage hoist	N/A* N/A*
35	Cantwell Pier RD Clayton, NY 13624	commercial	launch ramp pier moorings	1 30
36	Montanes Tourist Camp N/A*	commercial	pier moorings	34
37	Mils Beach Cottages N/A*	commercial	pier moorings boat rentals motorboats beach	12 N/A*
38	Hooson's Rt. 12 Clayton, NY 13624	private	launch ramp pier moorings	N/A* 35

*N/A = not available

Table B-1. Continued

Map Reference Number	Facility Name and Address	Ownership	Type of Accommodations Present	Number of Accommodations Present
39	Spicer Bay Marina Rt. 12 Clayton, NY 13624	commercial	launch ramp pier moorings boat storage	1 50 N/A*
40	Lanza Cottages RD Alexandria Bay, NY 13624	commercial	launch ramp pier moorings boat storage boat rentals rowboats beach	1 25 N/A* 1
41	Cal's Cottages Rt. 12 Clayton, NY 13624	commercial	launch ramp pier moorings transient boat rentals rowboats beach	N/A* 40 15 1
42	H. Chalk and Son, Inc. Fishers Landing, NY 13641	commercial	launch ramp pier moorings anchorage transient boat storage boat rentals rowboats	1 100 1 10 N/A* 1
43	Orleans Town Boat Ramp N/A*	municipal	launch ramp boat storage	1 N/A*
44	Grass Point State Park RR Alexandria, NY 13607	state	launch ramp transient boat rentals rowboats motorboats beach	1 32 15 5

*N/A = not available

Table B-1. Continued

Map Reference Number	Facility Name and Address	Ownership	Type of Accommodations Present	Number of Accommodations Present
45	Bill and Jack's Marina Fishers Landing, NY 13641	commercial	launch ramp pier moorings anchorage	N/A* 30 1
46	Jolly Oaks Campsite Wellesley Island Alexandria Bay, NY 13607	commercial	launch ramp boat storage boat rentals rowboats beach	1 N/A* N/A*
47	Wellesley Island State Park RD1 Alexandria Bay, NY 13607	state	launch ramp pier moorings boat rentals rowboats beach	4 110 65
48	Watterson Point State Park Wellesley Island, NY	state	dockage	N/A*
49	DeWolf Point State Park RD Alexandria Bay, NY 13607	state	launch ramp	1
50	Meadowlane Trailer Park Rt. 12 Alexandria Bay, NY 13607	commercial	launch ramp pier moorings beach	N/A* 60
51	Swan Bay Trailer Park Rt. 12 Alexandria Bay, NY 13607	commercial	launch ramp pier moorings boat storage	1 32 N/A*
52	Swans Bay Boat Launch N/A*	commercial	launch ramp pier moorings anchorage transient boat storage	1 32 1 7 N/A*

*N/A = not available

Table B-1. Continued

Map Reference Number	Facility Name and Address	Ownership	Type of Accommodations Present	Number of Accommodations Present
53	C and S Camps N/A*	commercial	launch ramp pier moorings	1 10
54	Keewaydin State Park Alexandria Bay, NY 13607	state	launch ramp pier moorings transient boat storage boat rentals rowboats	1 70 6 N/A* 10
55	Grimes Marina N/A*	commercial	launch ramp pier moorings	N/A* 1
56	Holland Street Boat Basin Alexandria Bay, NY 13607	commercial	launch ramp pier moorings transient	N/A* 40 1
57	Hutchinson's Boat Works I Alexandria Bay, NY 13607	commercial	launch ramp pier moorings boat storage	N/A* 50 1
58	Hutchinson's Boat Works II Alexandria Bay, NY 13607	commercial	launch ramp pier moorings boat storage	N/A* 60 1
59	Roger's Texaco Marina, Inc. 14 Bethune Street Alexandria Bay, NY 13607	commercial	launch ramp pier moorings boat storage beach	1 27 1 1
60	Glenn Furness N/A*	commercial	launch ramp pier moorings	N/A* 130

*N/A = not available

Table B-1. Continued

Map Reference Number	Facility Name and Address	Ownership	Type of Accommodations Present	Number of Accommodations Present
61	Maple Crest Motel 11 Crossman Street Alexandria Bay, NY 13607	commercial	launch ramp pier moorings anchorage transient boat storage	1 6 4 2 N/A*
62	Charley's Marina Sisson Street Alexandria Bay, NY 13607	commercial	launch ramp pier moorings boat storage boat rentals rowboats beach	1 36 N/A* 1
63	O'Brien's Boats 93 Walton Street Alexandria Bay, NY 13607	commercial	launch ramp pier moorings boat storage beach	1 12 N/A*
64	Van's Motor Marina 5 Sisson Street Alexandria Bay, NY 13607	private	launch ramp pier moorings boat rentals rowboats	N/A* 1 1
65	Mineral Springs Park N/A*	commercial	launch ramp boat rentals motorboats	1 N/A*
66	Bonnie Castle Yacht Basin Box 206 Holland Street Alexandria Bay, NY 13607	commercial	launch ramp pier moorings transient boat storage boat rentals rowboats beach	N/A* 300 1 N/A* 1

*N/A = not available

Table B-1. Continued

Map Reference Number	Facility Name and Address	Ownership	Type of Accommodations Present	Number of Accommodations Present
67	Pine Tree Point Club Pine Tree Point Alexandria Bay, NY 13607	commercial	launch ramp	N/A*
68	Fisherman's Wharf Alexandria Bay, NY 13607	commercial	dockage	N/A*
69	Alexandria Bay Town Boat Launch N/A*	municipal	launch ramp boat storage	1 N/A*
70	Alexandria Bay Village Dock (I) N/A*	municipal	launch ramp pier moorings boat storage	1 30 N/A*
71	Village Dock (II) Alexandria Bay, NY	municipal	dockage	N/A*
72	Alexandria Bay Launching Ramp Alexandria Bay, NY	municipal	ramp	N/A*
73	Mary Island State Park Cedar Point Clayton, NY 13624	state	pier moorings	10
74	Lanternman's Cottages N/A*	commercial	pier moorings	4
75	Mance's Marine Basin and Motel Anthony Street Alexandria Bay, NY 13607	commercial	launch ramp pier moorings transient boat rentals rowboats	N/A* 80 1 1 1
76	Tom's Chevron N/A*	commercial	launch ramp pier moorings	1 7

*N/A = not available

Table B-1. Continued

Map Reference Number	Facility Name and Address	Ownership	Type of Accommodations Present	Number of Accommodations Present
77	Wagoner's Marina and Trailer Park Dingman Point Road Alexandria Bay, NY 13607	commercial	launch ramp pier moorings boat storage beach	1 36 N/A*
78	Schoff's Boat Livery Goose Bay Alexandria Bay, NY 13607	commercial	launch ramp pier moorings anchorage boat storage	1 N/A* N/A* N/A*
79	Kring Point State Park RD Redwood, NY 13679	state	launch ramp transient boat rentals rowboats beach	2 50 10
80	Northernaire Route 12 Alexandria Bay, NY 13607	commercial	launch ramp pier moorings anchorage boat storage	1 100 1 N/A*
81	Wildwood Cottages N/A*	commercial	launch ramp pier moorings boat storage	1 8 N/A*
82	Denners N/A*	commercial	launch ramp pier moorings boat storage	1 10 N/A*
83	Oak Point N/A*	quasi-public	launch ramp	1

*N/A = not available

Table B-1. Continued

Map Reference Number	Facility Name and Address	Ownership	Type of Accommodations Present	Number of Accommodations Present
84	Schermerhorn's Boat Sales N/A*	commercial	launch ramp pier moorings boat storage boat rentals rowboats beach	2 105 N/A* N/A*
85	Hammond Town Ramp N/A*	municipal	launch ramp boat storage	1 N/A*
86	Cedar Island State Park Chippewa Bay	state	dockage	N/A*
87	Hammond Town Dock N/A*	municipal	launch ramp pier moorings boat storage	1 10 N/A*
88	Kreiders Chippewa Bay	commercial	dockage ramp	N/A* N/A*
89	Mallots Camps N/A*	commercial	launch ramp pier moorings boat rentals rowboats	1 7 N/A*
90	Booths Camp and Boats N/A*	commercial	launch ramp pier moorings boat storage	1 10 N/A*
91	Blind Bay Marina Route 12 Hammond, NY 13646	commercial	launch ramp pier moorings boat storage boat rentals rowboats	1 40 N/A* N/A*

*N/A = not available

Table B-2. Inventory of Marine-based Recreational Boating Facilities on the St. Lawrence, Reach 2.

Map Reference Number	Facility Name and Address	Ownership	Type of Accommodations Present	Number of Accommodations Present
92	Jacques Cartier State Park Box 135 Morristown, NY 13664	state	launch ramp pier moorings transient beach	1 20 5
93	Morristown Marina N/A*	commercial	launch ramp pier moorings anchorage boat storage beach	1 N/A* N/A* N/A*
94	Wright's Sporting Goods & Marina Morristown, NY 13664	commercial	launch ramp pier moorings anchorage transient boat storage boat rentals rowboats	1 65 N/A* N/A* N/A* N/A* N/A*
95	Thousand Islands KOA RD 2 Ogdensburg, NY 13669	commercial	launch ramp	N/A*
96	Blairs Marina N/A*	commercial	launch ramp pier moorings boat storage boat rentals rowboats	2 25 N/A* N/A*
97	Cubby's Marina 54 East River Ogdensburg, NY 13669	commercial	launch ramp pier moorings transient boat storage boat rentals rowboats	1 90 1 1 N/A*

*N/A = not available

(Source: New York State Office of Parks and Recreation 1981a, 1974)

Table B-2. Continued

Map Reference Number	Facility Name and Address	Ownership	Type of Accommodations Present	Number of Accommodations Present
98	Wards Marina 1 Franklin Street Ogdensburg, NY 13669	commercial	launch ramp pier moorings transient boat storage boat rentals rowboats	1 40 1 1 1
99	Morrisette Park N/A*	municipal	launch ramp boat storage	3 N/A*
100	Montrou's Boat Basin N/A*	commercial	launch ramp pier moorings boat storage boat rentals rowboats	1 14 N/A* N/A*
101	Ryan's Cabins N/A*	commercial	pier moorings	5
102	Kelly's Cabins N/A*	commercial	launch ramp transient boat storage boat rentals rowboats	1 N/A* N/A* N/A*
103	McNeil Blake 20 Pine Street Potsdam, NY 13676	commercial	launch ramp	2
104	Lisbon Town Beach N/A*	municipal	launch ramp pier moorings boat storage beach	1 1 N/A*

*N/A = not available

Table B-3. Inventory of Marine-based Recreational Boating Facilities on the St. Lawrence River, Reach 3.

Map Reference Number	Facility Name and Address	Ownership	Type of Accommodations Present	Number of Accommodations Present
105	Waddington Town Boat Launch N/A*	municipal	launch ramp anchorage boat storage	1 N/A* 1
106	St. Lawrence Seaway Marina N/A*	commercial	launch ramp pier moorings transient boat storage boat rentals rowboats	1 80 N/A* N/A* N/A* N/A*
107	Brandy Brook Boat Launching Site Brandy Brook	municipal	ramp	N/A*
108	Coles Creek State Park RD River Road Waddington, NY 13694	state	cartop launch launch ramp pier moorings transient boat storage boat rentals rowboats canoes beach	2 2 24 10 125 4 4 N/A*
109	Coles Creek Marina Coles Creek	commercial	ramp	N/A*
110	Fabares Trailer Park N/A*	commercial	launch ramp pier moorings beach	1 60
111	Wilson Hill Wildlife Management Area N/A*	state	cartop launch	3

*N/A = not available

(Source: New York State Office of Parks and Recreation 1981a, 1974)

Table B-3. Continued

Map Reference Number	Facility Name and Address	Ownership	Type of Accommodations Present	Number of Accommodations Present
112	Wilson Hill Boat Launch N/A*	state	launch ramp	1
113	Lake St. Lawrence Yacht Club N/A*	private	launch ramp pier moorings	1 38
114	St. Lawrence Hydro N/A*	quasi-public	launch ramp boat storage beach	6 N/A*
115	Massena Marina N/A*	commercial	launch ramp pier moorings boat storage	N/A* N/A* N/A*
116	Motel Oral RD 2 Smith Road Massena, NY 13662	commercial	launch ramp boat rentals	N/A* N/A*
117	Barnhart Island Boat Basin Barnhart Island	state	ramp boat rentals	N/A* N/A*
118	Robert Moses State Park Box 548 Massena, NY 13662	state	launch ramp pier moorings transient boat rentals rowboats canoes motorboats beach	2 64 16 4 4 2
119	Seaway Camping N/A*	commercial	launch ramp boat storage boat rentals rowboats beach	1 N/A* 1

*N/A = not available

Table B-4. Life History Summary of Major Sport Fish in the St. Lawrence-Eastern Ontario Area.

<u>Species</u>	<u>Adult Habitat</u>		<u>Adult Habitat</u> <u>Fall/Winter</u>	<u>Adult Food Supply</u> <u>Warm-Water Fish*</u>	<u>Spawning Period</u>	<u>Spawning Habitat</u>	<u>Young Habitat</u>	<u>Young Food Supply</u>
	<u>Spring</u>	<u>Summer</u>						
Northern Pike	Shallow weedy areas of creeks, wetlands	Weedy bays, slow moving rivers	Weedy bays, slow moving rivers	Vertebrates, mainly fish	April to early May	Shallow wetland areas, weedy bays	Remain near spawning grounds, move week out in July	Zooplankton, fish after one week
Muskelhunge	Wetlands, weedy bays	Weedy bays, slow moving rivers	Weedy bays, slow moving rivers	Vertebrates, mainly fish	Late April to early May	Shallow wetland areas, weedy bays	Remain near spawning grounds, move weeks out in July	Zooplankton, fish after 3-4 weeks
Smallmouth bass	Shallow inshore waters	Seek deeper water	1 to 30 foot range	Insects, crayfish, fish	Late May to early June	Shallow gravelly, bottom areas of lake, some streams	Same as adult	Insects, crayfishes by time they reach 50 mm length
Yellow perch	Shallow inshore waters	Open lake in areas of moderate vegetation	Under 30 foot depth, school in lake, active all winter	Insects, invertebrates, fish	Mid-April to May	Shallows of lake and tributary rivers	Shallow water near vegetation	Insects, invertebrates
Brown Bullhead	Shallow bays, slow moving rivers	Shallow bays and streams	Open bays	Insects, leeches, worms, plant material	April to June	Mud or sand in shallow water of lake and streams	Same as adult	Same as adult
Rock Bass	Shallow inshore waters	Shallow water, associated with bass	Shallow water, associated with bass	Aquatic insects, crayfishes, small fish	Spring to early summer	Inshore gravel bottom areas	Same as adult but with more vegetation	Same as adult
Pumpkinseed	Shallow inshore waters	Cover of submerged vegetation	Cover of submerged vegetation	Insects and other invertebrates	Late spring to early summer	6-12 inches of water along lake shore with vegetation	Same as adult but with more vegetation	Same as adult
American Eel	Shallow inshore waters	Inshore shallow areas in vegetation	Inshore shallow areas in vegetation	Fish and invertebrates	Fall	Vicinity of Sargasso Sea	Drift in ocean for a year	Unknown

*These species are found both in Lake Ontario and the St. Lawrence River and all spawn successfully in nature.

Table B-4. (Continued)

Species	Adult Habitat Spring	Adult Habitat Summer	Adult Habitat Fall/Winter	Adult Food Supply	Spawning Period	Spawning Habitat	Young Habitat	Young Food Supply
Cold-Water Fish**								
Lake Trout	Move inshore, but away from shallows	Below thermocline	Move shoreward during fall	Alewives, smelt, sculpin	September to November	Rocky shoals at depths less than 120 feet	Seek deep water within one month	Sculpins
Rainbow Trout	Close to shore, in and near spawning streams	Scattered throughout lake in thermocline area	Move inshore in fall, some ascend stream with salmon	Bottom invert-ebrates, plankton, forage fish	Mid-April to late June	Tributary streams with fine gravel areas	Move to lake immediately or remain 1 to 2 years in the stream	Crustaceans and other bottom invert-ebrates
Brown Trout	Very close to shore	Move just off-shore in preferred temperature range	Move inshore with cooling temperature, congregate in shallow bays and streams	Alewives, insects	Late fall to early winter	Shallow gravelly headwaters	Same as adult in the lake	Aquatic and terrestrial insects and larvae, crustaceans
Coho Salmon	Inshore at first, later moving off-shore into the open lake	In the open lake, schooling at the thermocline	Move inshore to parent streams, ascend streams to spawn and die	Smelt, alewives, invertebrates	Early September to early October	Parent streams, shallow gravelly areas of tributaries	Remain in streams until and larvae, smolt stage, move into lake during second spring	Aquatic insects and larvae, small fish
Chinook Salmon	Scattered throughout open lake	Open lake where thermocline meets bottom	Move inshore to spawning streams, spawn and die	Smelt, shad, invertebrates	October to December	Parent streams, larger rivers or tributaries	Move to the lakes as fingerlings during first summer	Invertebrates, mainly insects

**These species spend most of their lives in Lake Ontario. A limited amount of successful spawning probably occurs with the lake trout, rainbow-steel-head and coho salmon. Brown trout and chinook spawnings are not usually viable.

(Source: St. Lawrence-Eastern Ontario Commission 1978b:77)

Table B-5. Fishing and Ice Fishing Regulations for the St. Lawrence River, 1981-82 License Year.

GREAT LAKES			
Lake Erie, Lake Ontario, Niagara River, St. Lawrence River and their tributaries upstream to the first barrier impassable by fish.			
Species	Open Season	Minimum Length	Daily Limit
Trout, Landlocked salmon, Lake trout, Coho, chinook and Pink Salmon	All year	9"	5 Combination catch shall include no more than 3 lake trout
Largemouth and small-mouth bass	3rd Saturday in June through November 30	12", except 10" in Upper Niagara River (Peace Bridge to Falls)	5
Walleye	1st Saturday in May through March 15	18" in Lake Ontario, Lower Niagara River and St. Lawrence River	3
		15" in Lake Erie and Upper Niagara River	5
Muskellunge	3rd Saturday in June through November 30	36", except 30" in Lake Erie and Upper Niagara River	1
Use of gaff hooks or clubs to take muskellunge prohibited.			
Northern pike	1st Saturday in May through March 15	22"	5
Pickereel	March 15	15"	5
Whitefish	All year	Any size	5
American eel	Lake Ontario and its tributaries. Lower Niagara River and St. Lawrence River - possession prohibited.		
	Elsewhere all year	Any size	Any number
Bullheads, Carp, Catfish, Crappies, Rock bass, Smelt, Suckers, Sunfish, White bass, White perch, Yellow perch and all other fish not listed in this table	All year	Any size	Any number
Blue pike and Lake sturgeon	Possession prohibited		
Area		Regulations	
1. Lake Erie, Lake Ontario, Niagara River and St. Lawrence River	At all times	Snatching and blind snagging prohibited All foul-hooked fish must be released without unnecessary injury	

Ice fishing is permitted to take any species during its open season from November 15 through April 30. Fifteen tip-ups and two hand lines may be used except that only 5 tip-ups and two hand lines may be used in the St. Lawrence River and Lake Ontario's harbors, bays, inlets and outlets lying wholly or partly within the counties of Jefferson, Monroe, Wayne, Cayuga and Oswego.

(Source: New York State Department of Environmental Conservation 1981:18,20)

Table B-6. 1981-82 Waterfowl Season Summary.^a

Species	NORTHEASTERN ZONE			WESTERN ZONE			SOUTHEASTERN ZONE			LAKE CHAMPLAIN			LONG ISLAND		
	Season	Bag	Limit	Season	Bag	Limit	Season	Bag	Limit	Season	Bag	Limit	Season	Bag	Limit
Ducks and coots	Oct. 7-Nov. 1 and Nov. 13-Dec. 6	5*	10*	Oct. 14-Nov. 19 and Dec. 23-Jan. 4	5*	10*	Oct. 14-Oct. 25 and Nov. 6-Dec. 13	5*	10*	Oct. 10*- Nov. 28	4**	8**	Nov. 18-Jan. 6	4**	8**
Scaup #1, #2, #3	Oct. 7-Nov. 1 and Nov. 13-Dec. 6	2	4	Oct. 14-Nov. 19 and Dec. 23-Jan. 4	2	4	Oct. 14-Oct. 25 and Nov. 6-Dec. 13	2	4	Nov. 29- Dec. 14	3	6	Jan. 16-Jan. 31	5	10
Teal #4	Oct. 7-Oct. 15	2	4	Oct. 14-Oct. 22	2	4	Oct. 14-Oct. 22	2	4	Oct. 10*- Oct. 18	2	4	Nov. 18-Nov. 26	2	4
Canada geese	Oct. 7-Jan. 4	3	6	Oct. 7-Jan. 4	3	6	Oct. 7-Jan. 4	3	6	Oct. 10*- Dec. 18	3	6	Nov. 18-Jan. 31	3	6
Snow geese (including blue geese)	Oct. 7-Jan. 4	4	8	Oct. 7-Jan. 4	4	8	Oct. 7-Jan. 4	4	8	Oct. 10*- Dec. 18	4	8	Nov. 18-Jan. 31	4	8
Brant	Oct. 21-Nov. 19	2	4	Oct. 21-Nov. 19	2	4	Oct. 21-Nov. 19	2	4	Oct. 10*- Nov. 8	2	4	Dec. 8-Jan. 6	2	4
Merganser #5	Oct. 7-Nov. 1 and Nov. 13-Dec. 6	5	10	Oct. 14-Nov. 19 and Dec. 23-Jan. 4	5	10	Oct. 14-Oct. 25 and Nov. 6-Dec. 13	5	10	Oct. 10*- Nov. 28	5	10	Nov. 18-Jan. 6	5	10
Scoter, elder and old squaw	Oct. 7-Nov. 1 and Nov. 13-Dec. 6	7	14	Oct. 14-Nov. 19 and Dec. 23-Jan. 4	7	14	Oct. 14-Oct. 25 and Nov. 6-Dec. 13	7	14	Oct. 10*- Nov. 28	7	14	Sept. 23-Jan. 7	7	14

^aThis summary is included as an example of waterfowl regulations and should not be considered static as regulations can vary considerably from year to year.

*Daily bag on ducks may not include more than 1 black duck, 2 wood ducks, 2 redheads or 1 redhead and 1 canvasback in the aggregate; possession limits may not include more than 2 black ducks, 4 wood ducks, 1 canvasback or 4 redheads. Except no canvasbacks may be taken on Cayuga Lake or the Niagara River between the Peace Bridge and the Niagara Falls. The coot bag limit is 15-daily, 30 in possession.

**Daily bag on ducks may not include more than 2 black ducks, 2 wood ducks (1 wood duck in Lake Champlain), 2 redheads or 1 redhead and 1 canvasback in the aggregate; possession limits may not include more than 4 black ducks, 4 wood ducks, 1 canvasback or 4 redheads. The coot bag limit is 15 daily, 30 in possession.

#1 Scaup upstate on certain waters (Black Lake in St. Lawrence County, Canadawago, Canadice, Canandaigua, Cayuga, Chautauqua, Conesus, Erie, Hemlock, Honeye, Keuka, Oneida, Ontario, Otisco, Oswego, Seneca, Silver and Skaneateles Lakes, the Hudson River south of Albany, Niagara River and St. Lawrence River) may be taken as bonus birds during the regular season. The bonus is 2 scaup a day in addition to the regular bag limit.

Table B-6. (Continued)

- #2 On Lake Champlain, scaup and goldeneye may be taken during the period from November 29-December 14. The aggregate bag limit of goldeneye and scaup is 3 per day and 6 in possession.
- #3 On tidal waters of Long Island area, scaup only may be taken from January 16-January 31. Bag limit is 5 daily and 10 in possession.
- #4 Additional blue-winged or green-winged teal as bonus bag birds of 2 per day (4 in possession) may be taken beyond the normal duck bag limits during the first nine days of each respective season.
- #5 Merganser limits are outside regular duck limits. For hooded mergansers, only 1 per day and 2 in possession may be included with the daily and possession limits on mergansers.

*Opens 8 a.m.

(Source: New York State Department of Environmental Conservation news release 1981)

APPENDIX C:
A COMPARISON OF SHIP-GENERATED WAVE HEIGHTS
PREPARED BY THE U.S. ARMY CORPS OF ENGINEERS

NCBPD-EB

5 November 1981

SLSAL Study - Recreational Boating Contract

SUBJECT: Comparison of Ship-generated wave heights from a Seaway class vessel and a 1000 foot vessel (or larger)

PURPOSE: To determine if there is any definable difference in generated wave heights which could impact upon recreation craft using the St. Lawrence River.

REFERENCES:

- 1) "Water Wave Produced By Ships", by Robert M. Sorensen, ASCE Journal of the Waterways, Harbors, and Coastal Engineering Division, May 1973.
- 2) "Investigation of Ship-Generated Waves", by Robert M. Sorensen, ASCE Journal of the Waterways and Harbors Division, February 1967.
- 3) "Waves Generated by Large Ships and Small Boats", by M.M. Das and J.W. Johnson, Coastal Engineering, 12th Conference, Vol. III, 1970.
- 4) "Ship Waves in Navigable Waterways", by Duncan Hay, Coastal Engineering, 11th Conference, Vol. II, 1968.
- 5) "Waves Produced by Ocean-Going Vessels: A Laboratory and Field Study", by Arthur Brebner, P.C. Helwig, and J. Carruthers, Coastal Engineering, 10th Conference, Vol. I, 1966.
- 6) "Waves Generated by Model Ship Hull" by Robert M. Sorensen, ASCE, Journal of Waterways and Harbors Division, November 1969.

Discussion: Review of the above references resulted in the following information -

- 1) Vessel speed is by far the most important factor relative to production of vessel generated waves.
- 2) Water depth has some effect on the wave height generated by a given speed. It has been determined that as depth decreases, wave height increases, all other variables remaining equal. This is related to the increased resistance and squat the vessel experiences in shallow water.
- 3) Another factor affecting wave height is the fineness or configuration of the vessel's hull. The fineness ratio is defined as, L^*/\sqrt{A} . (ref. 5) L^* is the length of the curved part of the bow, at the waterline, measured in the horizontal plane, and A is the cross-sectional area of the middle-body, below the waterline. Generally, the wave producing capacity of a ship decreases with increasing fineness. The fineness ratio for a typical 1,000 foot vessel is about 2.2, while an estimate of

the fineness ratio for a Seaway class vessel is 2.9 (by observation). Making an approximation for the maximum wave height possible for both these vessels (see Fig. 10 ref. 4), it appears an increase of up to 20% would be reasonable for the 1,000 foot vessel moving at the same speed.

4) The speed limits in effect for the St. Lawrence Seaway should also be noted. They allow a maximum speed of 10.4 knots (12 mph) for most portions of the St. Lawrence River. Most vessels could only attempt these speeds in long straight reaches of relatively open water. Using figures 5 and 6 (ref. 4) shows the approximate wave heights at different operating depths it appears the generated wave heights for this vessel class is on the order of 0.4 to 0.8 feet at a distance from the vessel equal to one half its length. Assuming a 20% increase due to the 1,000 foot vessel hull configuration (operating at the same speed, we could expect to see comparable wave heights of 0.5 to 1.0 foot to be generated). This does not appear to be a significant relative difference.

Conclusion: Based on the material presented we find that vessel speed, channel depth, and hull configuration (listed in decreasing order of importance) contribute to vessel-generated wave height. Vessel length in itself is of little significance, although it may influence the "fineness" ratio of the hull configuration. Generally speaking, it appears that if we assume future 1,000 foot vessels will continue to have approximately the same hull configuration they exhibit presently a possible increase of up to 20% in vessel-generated wave heights can be expected. Because of the magnitude of the wave we are talking about (approximately 1 foot), it appears the relative difference would be insignificant. Therefore, for purposes of the present analysis the difference in vessel-generated wave heights will not be considered.

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